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IV-18

(Teacher Training)

For Limited Distribution

THE PERFORMANCE OF HUNTER COLLEGE GRADUATES ON THE 1955 COMMON BRANCHES LICENSE EXAMINATION

Marjorie B. Smiley

with the assistance of

Lester Dubnik

Office of Institutional Research
Hunter College of the City of New York
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The statistical treatment was planned and executed by Mr. Lester Dubnik of the Office of Research and Evaluation of the Division of Teacher Education. Mr. Arthur Sprague of the Hunter College Office of Institutional Research assisted in the statistical analysis of the data and read and commented on the text.

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I. INTRODUCTION

A majority of the graduates of the Hunter College Teacher Education Program for elementary school teachers seek teaching positions in New York City. The Department of Education consequently has a continuing interest in the performance of its graduates on the New York City Common Branches License Examination, although success or failure on this examination is not conceived by the Department as the sole criterion of the effectiveness of its program. Little is known about the validity of the examination as a selector of "good teachers," and, as will be suggested later in this study, the examination may be functioning in part to select candidates on the basis of intellectual ability rather than on the basis of either academic or professional preparation.

In September 1956 the Office of Research and Evaluation of the Division of Teacher Education presented the results of its study "Success and Failure of Students from the Municipal Colleges on the New York City License Examination for Regular Teacher, Common Branches, Fall, 1955" to the Directors of Teacher Education of the four colleges. Table 1 shows that although a much larger proportion of candidates from the four municipal colleges, as a group (68.8%), passed all five phases of the examination than did candidates prepared at all other colleges and universities (47.6%), Hunter candidates[1] (59.3%) were less successful on the total examination than other municipal college graduates. (75.5%)

[1] Candidates were attributed to the college where they reported having taken student teaching, or, if they had not had student teaching, where they had taken a majority of their courses in Education.

Table 1

Success and Failure by College of Origin of Candidates

for Regular Teacher, Common Branches License Examination, Fall 1955[1]

Examination Performance	College of Origin									
	Hunter College		City Brooklyn and Queens Colleges		Four Municipal Colleges		All Other Institutions		Total	
	N	%	N	%	N	%	N	%	N	%
Passed all Five Examination Phases	467	59.3	838	75.5	1305	68.8	465	47.6	1770	61.6
Reason for Failure:										
Failed Written Content Test (Less than 60.00)	194	24.6	143	12.9	337	17.7	377	38.6	714	24.8
Failed Written English (Passed Content)	1	0.1	1	0.1	2	0.1	2	0.2	4	0.1
Failed Oral Interview and Speech Phase	110	13.9	104	9.3	214	11.3	107	11.0	321	11.2
Withdrew After Passing Written Content	15	1.9	22	2.0	37	1.9	22	2.3	59	2.1
Rejected on Medical Grounds or for Lack of Training and Experience	2	0.2	2	0.2	4	0.2	3	0.3	7	0.2
All Candidates	789	100.0	1110	100.0	1899	100.0	976	100.0	2875	100.0

[1] Adapted from Table 1-H in "Success and Failure of Students from the Municipal Colleges on the New York City License Examination for Regular Teacher, Common Branches, Fall, 1955." (Hunter College Report), Office of Research and Evaluation, Division of Teacher Education, 9/12/56.

Table 2[1]

Summary by College of Origin of Written Test Marks[2] (Short Answer and Essay) of Candidates for Regular Teacher, Common Branches License Examination, Fall 1955

	College of Origin				
	Hunter College	City Brooklyn and Queens Colleges	Four Municipal Colleges	All Other Institutions	All Candidates
Number of Candidates	789	1110	1899	976	2875
Mean Mark	63.89	65.92	65.07	60.06	63.37
Median Mark	63.70	66.16	65.19	60.96	63.97
Highest Mark	84.76	86.09	86.09	85.84	86.09
Lowest Mark	27.67	33.92	27.67	16.42	16.42
Standard Deviation	8.2	6.9	7.5	10.5	9.0

1 Adapted from Table 2-H in "Success and Failure of Students from the Municipal Colleges on the New York City License Examination for Regular Teacher, Common Branches, Fall 1955." (Hunter College Report), Office of Research and Evaluation, Division of Teacher Education, 9/12/56.

2 The written test mark is a percentage value based on a combination of short answer and essay questions. The minimum passing mark is 60.00.

Table 1 also shows that the percentage of Hunter candidates who failed the written content test was almost double that of other municipal college graduates. An earlier study by the Office of Research and Evaluation of the Division of Teacher Education compared the performance of municipal college graduates on the September 1949 Common Branches Examination for Regular Teacher.[2] On this examination also the median grade of Hunter graduates was slightly below that of candidates from the other three municipal colleges.

Table 2 gives the mean and median marks on the written part (short answer and essay) of the examination of candidates from Hunter, the three other municipal colleges, and all other institutions. Both the mean and the median marks for Hunter graduates on the written phase of the examination were above the minimum passing grade (60.00) and above the mean and median for candidates from non-municipal colleges. They were, however, below the mean and median of candidates from the other three municipal colleges.

Finally, as is shown in Table 3, Hunter candidates differ from candidates from the other three municipal colleges with respect to the relationship between examination performance and teaching experience. A somewhat larger proportion of Hunter candidates had some teaching experience than other municipal college candidates had had: 48% and 43% respectively. What is notable, however, is the fact that whereas

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[2] E. Hagen, J.S. Orleans and I. Tashlick, College of Origin of 1300 Candidates on the Eligibility List of September 1949 for Appointment as Regular Teachers of Common Branches in the New York City Schools, 1950.

Table 3

Success and Failure of Municipal College Candidates for Regular Teacher Common Branches License Examination, Fall 1955, by Teaching Experience[1]

	Hunter College		Other Municipal Colleges	
	Pass	Fail	Pass	Fail
No Experience	224	187	474	157
	55%	45%	75%	25%
Some Experience	243	135	364	115
	64%	36%	76%	24%
TOTALS	467	322	838	272

[1]Data provided by Office of Research and Evaluation, Division of Teacher Education

teaching experience or lack of it made no difference in the percentage of candidates from the other municipal colleges who passed the examination, teaching experience was a significant factor for Hunter candidates. Fifty-five per cent of the inexperienced candidates from Hunter passed all phases of the examination; among experienced candidates from Hunter 64% were successful.

On the basis of preliminary analysis of this report, the Director of Teacher Education at Hunter College requested that further study of the Common Branches License examination performance of Hunter graduates be made. The present study was undertaken in collaboration with the Office of Research and Evaluation of the Division of Teacher Education and the Board of Examiners of the New York City Board of Education.

II. AIMS OF THE STUDY

Although the percentage of failures on the Oral Interview and Speech phase of the examination was higher for Hunter candidates than for all other candidates, this study focuses especially on the performance of Hunter candidates on the written content test of the examination. It was thought that analysis of their performance on this phase of the examination might have implications for the revision of the teacher education program then in progress at Hunter. This study, therefore, inquires into the factors related to Hunter candidates' success or failure on the written content tests. Specifically this study is directed toward the following questions:

1. Is there a difference between candidates actually matriculated at Hunter College and those matriculated at other colleges but attributed to Hunter because they have had student teaching or a portion only of their professional work at Hunter, with respect to
    a. total score on the written content test (b and c below)
    b. essay score (professional information, methods)
    c. short-answer score (vocabulary, literature, arithmetic, general information)

2. For Hunter matriculants is there a relationship between short answer score and
    a. ACE score at the time of admission to Hunter
    b. major

3. For Hunter matriculants is there a relationship between essay score and
    a. semester hours in education courses
    b. student teaching
    c. date of graduation

Underlying each of these questions is an assumption which the study was designed to examine. In the case of the first question it was believed that the performance of so-called Hunter candidates might be distorted by the inclusion of non-matriculants who had not secured the major portion of either their liberal arts or their professional preparation at Hunter. This question was considered worthy of examination because Hunter had been accustomed to accept for student teaching and a limited portion of professional work a larger number of non-matriculants than were accepted at the other municipal colleges.

The second question is based on the assumption that the short answer test of the Common Branches License Examination measures knowledge and skills in content areas relevant to the elementary school

curriculum. This phase of the examination includes questions on vocabulary (100 items), spelling (20 items), punctuation and grammar (20 items), literature--including films and children's literature (45 items), the social sciences (35 items), biological and physical sciences including health and games (35 items), music and art (10 items), and arithmetic (35 items). It should be noted that a third of the 300 item test is on vocabulary and that more than 60 per cent of the test calls for knowledge customarily conceived as English subject matter. Much of the test deals with what might be described as general information, not specifically related either to actual course content either in the elementary grades or in college. Thus it seemed reasonable to suppose that success on this part of the examination might be related to candidates' intellectual ability rather than to scholarship; for this reason candidates' short answer marks were correlated with their college admission scores (where available) on the American Council on Education Psychological Examination. On the other hand, it could be that a candidate's college major might place him either at an advantage or at a disadvantage in this test.

The essay portion of the examination is on professional content: the four essay questions call for the application to classroom situations of knowledge of principles of learning, child development, and methods of teaching. The supposition underlying the third question of the study is that the amount and recency of candidates' professional preparation might be related to their success or failure in this phase of the written examination. This factor was of particular interest because of the fact

that many Hunter candidates took the examination in their lower senior year before completion of their work in education. This group would tend not to have completed courses in methods or begun their student teaching.

III. PROCEDURES

The population selected for this study was a 50 per cent random sample of the 789 candidates attributed to Hunter. However, since it was not possible to locate data on the total sample for each variable in the records of the college, the usable number for each variable is different. In fact, data for the entire sample were not available for any one of the variables. Since on most variables it was found that data were more easily secured for recent than for earlier graduates, the usable sample is biased in the direction of more recent graduates. Another limitation was the fact that the A C E scores for this sample are based on different test editions and are thus not strictly equivalent. For these reasons it is essential to exercise caution in interpreting and projecting the results. Nevertheless, the results are suggestive and as such worthy of consideration by those responsible for the selection and preparation of elementary school teachers at Hunter College.

IV. RESULTS

Do Hunter graduates and non-matriculants differ in their performance on the Common Branches License Examination? It was possible to determine

the matriculation status of 334 of the 395 candidates attributed to Hunter in the sample selected for study. Of the 334 for whom matriculation data were available, 294 were Hunter matriculants and 40 were non-matriculants who had taken student teaching or other education courses at Hunter. The performance of these two groups was compared on the complete written examination and on each of its parts.

Composite written examination. The composite marks of the two groups on the written examinations are given in Table 4. The mean mark for Hunter graduates is 63.90; for non-matriculants it is 65.05. Although the mean mark for non-matriculants is higher than that for Hunter candidates, the difference between these marks is not statistically significant.

Short answer examination. Table 5 gives the marks for the two groups on the 300 item short answer test. Again the mean marks, though lower for Hunter graduates (59.94) than for non-matriculants (60.92), are not significantly different.

Essay examination. Table 6, which gives the mean marks and the percentage passing for each group, shows that both groups have a higher mean mark on the essay examination than on the short answer test. Also a larger percentage of both groups passed the essay examination than passed the short answer test. However, here, too, the difference between groups is not significant.

Oral interview. Table 7 gives the percentage in each group who passed the oral interview phase of the examination.[3]

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[3]Only candidates who have passed the written phase of the examination are called for the interview.

Table 4

Composite Written Marks on the 1955 Common Branches License Examination for Hunter Matriculants and Non-Matriculants

Composite Written Marks (Essay and Short Answer)	Matriculated	
	Hunter	Elsewhere
81-83	2	1
78-80	10	
75-77	18	5
72-74	28	1
69-71	30	6
66-68	41	5
63-65	37	8
60-62	50	6
----------Passing----------		
57-59	13	
54-56	32	6
51-53	18	2
48-50	9	
45-47	3	
42-44	2	
39-41	1	
TOTAL	294	40
MEAN	63.90	65.05
% PASSED	73	80

Table 5

Short Answer Marks on the 1955 Common Branches License Examination for Hunter Matriculants and Non-Matriculants

Short Answer Marks	Matriculated	
	Hunter	Elsewhere
81-83	6	1
78-80	3	
75-77	6	3
72-74	21	1
69-71	14	3
66-68	29	6
63-65	32	1
60-62	40	7
----------Passing----------		
57-59	41	4
54-56	28	6
51-53	26	4
48-50	23	1
45-47	13	2
42-44	9	
39-41	1	1
36-38	2	
TOTAL	294	40
MEAN	59.94	60.92
% PASSED	51	55

Table 5

Essay Marks on the 1955 Common Branches License Examination for Hunter Matriculants and Non-Matriculants

Essay Marks	Matriculated	
	Hunter	Elsewhere
85–89	10	
80–84	30	4
75–79	46	10
70–74	57	7
65–69	53	9
60–64	44	5
----------Passing----------		
55–59	24	3
50–54	14	1
45–49	10	
40–44	5	1
35–39		
30–34	1	
TOTAL	294	40
MEAN	68.24	69.50
% PASSED	82	88

Table 7

Hunter Matriculants and Non-Matriculants, Successful on the Written Tests, Who Passed or Failed the Interview in the 1955 Common Branches License Examination[1]

Interview	Matriculated		Total
	Hunter	Elsewhere	
Pass	171	21	192
Fail	35	10	45
TOTAL	206	31	237
% PASSED	83	68	

[1] Fifteen candidates who passed the written phases of the examination withdrew and are not included in these totals.

Here it is seen that 83% of the candidates who graduated from Hunter and who passed the written phases of the examination passed the oral interview as compared with 68% of candidates successful on the written examination but matriculated elsewhere though attributed to hunter. This is the only phase of the 1955 Common Branches License Examination on which the difference between Hunter matriculants and non-matriculants is statistically different.

Within the limits of these data and for this particular examination at least, the supposition that the record on the written examination of Hunter College candidates is negatively affected by the inclusion of non-matriculants attributed to Hunter is not confirmed.

Is the performance of Hunter matriculants on the short answer test related to their intellectual ability or to their field of major preparation at college? The answers to this question are compromised by the fact that data on the two variables involved were available for only part of the sample selected for study. Of the 294 candidates whose matriculation status at Hunter was confirmed, the major field could be ascertained for only 274. The situation with respect to A C E scores was even less satisfactory: the records yielded A C E scores for only 150 subjects or 38% of the original sample. This group of 150 is weighted in the direction of recent graduates for whom records are more likely to be complete and includes scores on different editions of the A C E examination.

Because of the nature of the content in the short answer test it was believed that performance on this phase of the test might be related to

candidates' intellectual ability. Table 8 is a scatterplot of short answer marks and A C E scores. From the data in Table 8 a correlation of .60 was obtained. This strongly suggests that, as was believed, there is a significant relationship between scholastic aptitude and performance on the short answer examination.

The field of major preparation is apparently also a factor in Hunter candidates' performance on the short answer test. As is shown in Table 9, Hunter candidates who have majored in different liberal arts subjects differ significantly with respect to their mean marks on this test and with respect to the percentage who passed. Of the candidates who majored in psychology or sociology as undergraduates the percentage of failure on this test was almost double that of candidates who had majored in such subjects as English, History, Mathematics and the sciences. Since Psychology and Sociology are the majors most frequently chosen by prospective elementary school teachers, this difference is of considerable import.

However, before final conclusions are drawn on the relation of major and short answer performance, the relationship between major and ability (in this case A C E scores) should be examined. It may be that candidates prepared in different academic subjects differ in their success and failure on this test not only because of differences in their major preparation but also because different majors may attract students of greater or less intellectual ability. With this possibility in mind the short answer marks for majors for whom A C E scores were available were re-examined.

Table 8

Distribution of Short Answer Marks on the 1955 Common Branches License Examination by ACE Score

Short Answer Marks	ACE Scores 60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150-159	Total
78-80									1		1
75-77								2			2
72-74					1	1	2	2	3		9
69-71					1	2		2	1		6
66-68					1	2	4	3			10
63-65			2	1	3	5	1	1		1	14
60-62		1	2	2	8	5	2	1	1		22
57-59	1	3	3	2	4	4	6	1			24
54-56		1	3	7	3	1	1	1			17
51-53	3	5		4	4	3		2			21
48-50		1	1	4	1	1					8
45-47		1	3	3	1						8
42-44	1	1	1	3							6
39-41						1					1
36-38		1									1
TOTAL	5	14	15	26	27	25	16	15	6	1	150

Table 9

Marks on the Short Answer Test of the 1955 Common Branches Examination by Candidates' Major

Short Answer Marks	Psychology[1]	Sociology and Anthropology	Foreign Languages	English and Speech	Music	History, Economics, Political Science	Sciences and Mathematics	All Candidates
81-83			3	2				5
78-80						2	1	3
75-77	2		2		1			5
72-74	5	2	3	2	1	2	4	19
69-71	2	1	1	4		4	2	14
66-68	4	2	2	6		8	2	24
63-65	4	4	2	3	3	8	7	31
60-62	4	6	5	8	1	4	9	37
----------Passing----------								
57-59	6	13	5	6		4	7	41
54-56	11	3	2	4	2	5	1	28
51-53	11	4		2		2	4	23
48-50	9	5	4	1		2	2	23
45-47	3	2	3	2			1	11
42-44	5	1		1				7
39-41		1						1
36-38	2							2
TOTAL	68	44	32	41	8	41	40	274
MEAN	56.14	57.25	62.12	61.66	64.00	63.04	61.38	59.68
% PASSED	31	34	56	61	75	68	62	50

[1] Includes 5 Home Economics and 1 Physical Education Major

For the curtailed group (N = 150) the mean A C E scores by major are given in Table 10. There is seen to be some variation. However, the differences are not statistically significant, indicating that these groups could have been drawn from a common population of undergraduate teacher candidates.

A test of the significance of the difference among the short answer means by major fell just short of the five per cent level. Since for the total group (N = 274) the difference among the mean short answer marks by major were found to be statistically significant. At the .01 level of confidence it seemed appropriate to remove an independent source of variation, namely A C E scores.

The covariance analysis showed that the differences among the mean short answer marks were statistically significant when the variation due to A C E was removed. This suggests that some factor pertaining to the liberal arts major effects performance on the short answer examination.

The unadjusted and adjusted short answer means by major are given in Table 11. The rank order by major of the unadjusted and adjusted means is also given. It is seen that the removal of the effect of A C E upon short answer scores and the increase in the precision of the test of significance results in some shifts in the ranks of some of the majors.

Is the performance of Hunter matriculants on the essay test related to the number of college credits in education they have had, and in particular to whether or not they have had student teaching experience? Data on the number of credits in education courses were available for 331 candidates; on student teaching for 324 candidates. Table 12 gives

Table 10

Mean A C E Scores and Unadjusted Short Answer Means by Major

Major	N	Mean ACE [1]	Mean Short Answer [1]
Psychology	39	103.90	54.87
Sociology	28	104.07	57.89
Language	8	106.38	59.13
English	31	110.13	59.87
Music	7	103.14	59.29
History	20	105.20	61.65
Mathematics	17	107.18	59.65
TOTAL	150	105.86	58.35

[1] Differences between group means are not significant.

Table 11

Mean Short Answer Marks by Major with A C E Scores Uncontrolled and Mean Short Answer Marks with A C E Scores Controlled

Major	N	A C E Uncontrolled Mean	A C E Uncontrolled Rank	A C E Controlled Mean	A C E Controlled Rank
History	20	61.65	1	61.76	1
English	31	59.87	2	58.83	5
Mathematics	17	59.65	3	59.33	3
Music	7	59.29	4	59.99	2
Language	8	59.13	5	59.00	4
Sociology	28	57.89	6	58.33	6
Psychology	39	54.87	7	55.34	7

Table 12

Essay Marks on the 1955 Common Branches License Examination

by Number of Undergraduate Credits in Education

Essay Marks	Undergraduate Credits in Education					
	0	1-12	13-17	18-27	28-35	36
85-89		1	2	4	3	
80-84		3	5	21	4	1
75-79	2	10	9	27	7	1
70-74		13	10	36	5	
65-69		9	10	33	7	2
60-64		9	9	21	9	
			Passing			
55-59		4	2	19	2	
50-54		3	3	6	2	1
45-49		2	1	6	1	
40-44		1	2	3		
35-39						
30-34				1		
TOTAL	2	55	53	177	39	5
MEAN	77.00	67.65	68.40	66.05	69.20	69.00
% PASSED	100	82	85	80	87	80

the essay marks of Hunter candidates by the number of credits in education they have taken. The distribution of credits in education was from 0 to 36; more than half of this number (53%) had taken between 18 and 27 credits in education. The mean mark (66.05) on the essay test for this group, however, was slightly lower than for any other group in this category. However, the difference in mean marks on this part of the test was not statistically significant for any of the education credit groups. The percentage of these groups who passed the essay test on professional content was in no case less than 80%, whether they had had thirty-six or more credits in education or none.[4]

Similarly, as is shown in Table 13, as large a percentage of candidates who had not had student teaching at Hunter passed the essay test as did those who had.

Apparently neither the number of credits in education courses generally or student teaching in particular gave candidates advantages in passing the professional content of this Common Branches License Examination.

The possibility that candidates' performance on the essay part of the examination might be affected by their college major was considered. In particular it was thought desirable to learn whether psychology majors were more successful on the essay questions calling for knowledge of child development, principles of learning, and methods than candidates who had majored in other subjects. Table 14 gives the essay marks of candidates prepared in different major subjects. Performance on the essay test by

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4 Because of the great demand for elementary school teachers at the time, candidates without prior credit in education courses were declared eligible to take the 1955 Common Branches License Examination.

Table 13

Relationship of Student Teaching Experience to Success or Failure of the Essay on the 1955 Common Branches License Examination

Essay	Had S. T.	No S. T.	Total
Pass	110	157	267
Fail	24	33	57
TOTAL	134	190	324
% PASSED	82	83	

Table 14

Essay Marks on the 1955 Common Branches

License Examination by Candidates' Major

	Coded Scores	Psych	Soc	Lang	Eng	Art	Hist	Math Sci	All Cand
90									
85	11	4	1	1	1		2	1	10
80	10	4	1	6	4	1	9	2	27
75	9	8	9	4	7	2	7	10	47
70	8	10	9	4	9	1	8	10	51
65	7	10	7	9	9	2	6	9	52
60	6	13	9	1	6	1	3	7	40
----------Passing----------									
55	5	5	4	3	3	1	5	1	22
50	4	8	1	1	1	1	1	1	14
45	3	3	1	2	1	1	1	1	10
40	2	2	2	1					5
35	1								
30	0	1							
TOTAL		68	44	32	41	10	42	42	279
MEAN		65.38	67.00	68.70	69.45	66.00	71.40	69.85	68.20
% PASSING		72	82	78	88	70	83	93	

majors follows approximately the same pattern as on the short answer test. Table 14 shows that psychology majors have the lowest mean marks (65.38) among the various major groups. The mean marks of different majors are not, however, significantly different.

With respect to performance on the essay test only the recency of graduation of candidates, shown in Table 15, is statistically significant. For the 163 Hunter candidates who had graduated the highest percentage of passing and the highest mean mark was secured by the group of candidates who had graduated in 1939 and before. Slightly more than half of the Hunter candidates (167) had not yet completed their college degree. The mean marks for this group of undergraduates (68.48) is almost identical with that of the entire group of graduates (68.30) The percentage of these undergraduates who passed the essay test (85%) is higher than that for candidates who had graduated between 1948 and 1955. The possibility that the most competent recent Hunter teacher education graduates had already secured teaching positions either in the city or out of town must be considered in interpreting these results.

V. IMPLICATIONS AND RECOMMENDATIONS

Questions as to the validity of the Common Branches License Examination raised by this analysis are not the concern of the present inquiry. It is, however, appropriate to ask if the results have implications for the Hunter College Teacher Education Program for elementary school teachers. With due consideration for the limitations of the data two general observations may be made.

Table 15

Essay Marks on the 1955 Common Branches License Examination

by Recency of Graduation

Essay Marks	1939 and before	1940-47	1948-52	1953-55
85-89	2		1	4
80-84	7	3	4	5
75-79	11	3	3	10
70-74	5	4	2	14
65-69	11	6	4	12
60-64	5			13
----------Passing----------				
55-59	1	1	3	12
50-54		1	1	4
45-49	2		2	3
40-44			1	2
35-39				
30-34				1
TOTAL	44	18	21	80
MEAN	71.65	70.88	67.47	66.18
% PASSED	93	89	67	72

Professional preparation. First, candidates attributed to Hunter were more successful on the professional part of the examination[5] than on the short answer test. On the other hand, candidates actually matriculated at Hunter College did no better on this phase of the examination than did non-matriculants attributed to Hunter. Even more disturbing is the evidence that the performance of candidates who had completed the full sequence of professional courses in the Hunter College Teacher Education Program for elementary school teachers was not superior to that of candidates who had taken only a few courses in education. It would appear that the professional preparation provided by the elementary education sequence, including student teaching, is not cumulative with reference to performance on the essay test.

If the questions on this part of the examination do in fact deal with professional knowledge presumably not familiar to candidates without professional preparation, where do candidates attain this knowledge? Through actual teaching experience? Is the kind of professional knowledge called for in the examination now a part of general information? Have candidates acquired this knowledge through "cram" courses? Or, finally, did the questions in this phase of this examination draw chiefly or exclusively on professional content presented in a few courses in the

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5 A similar relationship between scores on professional and liberal arts subject matter was found for Hunter College Teacher Education students who took the National Teacher Examination in February 1951. (Evaluation of the Teacher Education Program at Hunter College, 1948 - 1953, Mimeographed report of the Evaluation Steering Committee, September 1, 1954, pp. 180-182.)

elementary education sequence which many candidates include in their first twelve credits in education?

The caution given earlier in this report bears reiteration here: performance on this examination should not be considered in itself a measure of the soundness of a teacher education program. Nevertheless, further study of the questions raised here is suggested. Certainly, it would seem desirable to study the performance of Hunter teacher education students on this and on other professional tests at the start, midway, and at the end of their professional sequence. In addition, it is suggested that information secured from candidates by the Office of Research and Evaluation of the Division of Teacher Education include a question on non-college courses taken in preparation for the examination.

The second general observation prompted by this study relates to the non-professional preparation of prospective elementary school teachers. Since Hunter College candidates perform less well on the short answer portion of the examination than on the professional test, it is appropriate to inquire further into the intellectual ability and the liberal arts preparation of these candidates.

Intellectual ability. The mean A C E score for the 150 candidates in this study for whom these data were available is 105.86. It has already been suggested that the relatively poor performance of Hunter College candidates on the short answer portion of the Common Branches License Examination could stem in part from the fact that Hunter candidates may be of somewhat less intellectual ability than teacher education graduates from other municipal colleges. Scores of Hunter College student teachers

on the English Expression and Nonverbal Aptitude parts of the National Teacher Examination in February 1951 also suggest that this may be the case. On the other hand, a more recent study of admissions scores of freshmen from Hunter, City, and Queens colleges on the American Council on Education Psychological Test shows that mean scores for Hunter teacher education students (111.99) are very similar to mean scores for teacher education students at City and at Queens.[6] It is, of course, possible that a number of the freshmen who indicate their intention to pursue the teacher education program do not do so; those who actuallycomplete the teacher education program and become candidates for the New York City Common Branches License Examination may constitute a very different group with respect to A C E mean score perhaps because the best teacher education graduates may seek jobs outside of New York City; it may be,too, that teacher education students now entering the Hunter program have significantly higher A C E scores than earlier admissions included in the present study. In any case, it would be desirable to study the intellectual ability of students planning to enter and actually entering and completing the Teacher Education Program at Hunter College. It is important to know whether or not more able students at Hunter College tend to drop out of the Teacher Education Program. In order to undertake a study of this kind an improved method of student accounting would be required so that more complete records could be secured for Hunter students.

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[6] Academic Aptitude of Lower Freshmen in the Municipal Colleges. Administrative Report, April, 1957, Division of Teacher Education, Board of Higher Education, New York City.

Liberal arts preparation. Unquestionably it is desirable for elementary school teachers to have a broad general education. The teacher education program at Hunter College is based on a conviction of the importance for teachers of adequate preparation in the liberal arts. This preparation includes the basic courses taken by these students in common with all other Hunter College students, usually during their first two years, and specialization in academic subject. For elementary school students the major may be in any subject. At present no special guidance is given prospective elementary school teachers as to their choice of major. The major most frequently selected by this group is psychology; sociology is the second most frequently chosen major of elementary teacher candidates.

Is it reasonable to expect that specialization in either of these subjects will provide the kind of preparation most desirable for elementary school teachers? Is it not possible that specialization in one or a combination of the fundamental academic disciplines (history, science, the language arts and mathematics) would be more appropriate? The achievement on the short-answer test of candidates who have majored in psychology and sociology as compared with that of majors in other subjects suggests that—to the extent that this test is a test of general culture—this may be the case. This suggestion as to desirable preparation for teaching the common branches should not, needless to say, be taken as deprecating the importance of certain psychological and sociological concepts in other dimensions of teacher preparation. However, a major in psychology does not appear to give candidates advantages on the

professional phase of the Common Branches Examination.

The evidence of the present study, despite its inconclusiveness, suggests further investigations. First, it would be desirable to make a more systematic study of the performance of majors in different disciplines on standard tests of academic achievement. On a long range basis a study of the relation of performance on tests of this kind to competence in the actual curriculum content of the elementary grades should be valuable. Preliminary efforts have been made at one of the other municipal colleges to develop tests of prospective elementary school teachers' competence in basic concepts and skills in arithmetic and in children's literature; further efforts along these lines would seem to hold promise for estimating elementary school teachers' readiness for teaching the common branches.

It is also recommended that a faculty committee including representatives of the liberal arts departments and the Department of Education consider critically a revision of the present practice of major specialization for elementary school teachers at Hunter College. There are several alternatives to the present unrestricted system of majors for this group of students: for example, a program of advanced work in the fundamental disciplines which would carry students beyond the present threshold acquaintance provided in the basic curriculum now required of all Hunter students; or an interdisciplinary major in American studies. The recognition of the importance of a sound liberal education for elementary school teachers which is shared by education and liberal arts faculty at Hunter College should provide motivation for cooperative study of an optimum curriculum for this group of students.